Journal of Testing and Evaluation
Table of Contents, Volume 16
1988

No. 1, January

Determination of Material Characteristic Values in Elastic-Plastic Fracture Mechanics by Means of *J*-Integral Crack Resistance Curves—EBERHARD ROOS AND ULRICH EISELE 1

A Dynamic Microindentation Apparatus for Materials Characterization—ROBERT S. POLVANI, A. WILLIAM RUFF, JR., AND ERIC P. WHITENTON 12

Evaluation of Notch Tip Opening Displacement Using a Composite Crack Profile Approach—C. R. PRATAP AND R. K. PANDEY 17

On the Analysis of Thermally Activated Tension-Tension Cyclic Deformation Behavior—J. S. MSHANA AND A. S. KRAUSZ 22

A Cleavage Precracking Technique for Sheet Steel Fracture Specimens—J. Q. CLAYTON AND C. B. ROGERS 33

Determination of K_c and Residual Strength Values for Sheet Materials—EDUARDO R. ABRIL 38

Diametral Strain Response and Microstructural Yielding Mechanisms of a Bainitic Pressure Vessel Steel—K. A. RAHKA, J. P. SOLIN, AND M. J. KEMPPAINEN 44

Load-Point Compliance of a Three-Point Loaded Cracked-Notched Beam—FRANCIS I. BARATTA 59

A Simple, High Precision Biaxial Extensometer for High Temperature Creep Study—J. L. DING, S. R. LEE, AND R. ORTIZ 72

An Experimental Technique for Determining a Measure of Structural Damping—GRAEME G. WREN AND VIKRAM K. KINRA 77

Generalized Equation for Compression Ratio—T. S. NAGARAJ, R. C. JOSHI, AND B. R. SRINIVASA MURTHY 86

SYMPOSIUM ON THE APPLICATION OF COAL SAMPLING AND COAL PREPARATION TO PETROLEUM COKE

Introduction—DAVID W. COX 90

A Review of Petroleum Coke Preparation Procedures—GEORGE H. ENGELKE 91

Sampling Variance: Bias and Reproducibility—K. I. SAVAGE 94

Sampling Techniques Applicable to Petroleum Coke—LLOYD W. TAYLOR III 105

No. 2, March

Evaluation of Published Data on Ductile Initiation Fracture Toughness of Low-Alloy Structural Steels—F. EBRAHIMI AND J. A. ALI 113

Localized Intrinsic Strengthening Approach (LISA): A Practical Method for Determining the Tensile Strength of Multistrand Cables—AINUL AKHTAR 124

Flow of Semi-Solid Foods over Inclined Packaging Surfaces as an Index of Traction—CHRISTOPHER C. LAI 134

Establishing Criteria for a Computerized Vision Inspection of Holes Drilled in Carbon Fiber Composites—CLARENCE L. HOUGH, JR., THOMAS E. LEDNICKY, AND NORMAN GRISWOLD 139

Fatigue Life Prediction in Flexural Bending of Hollow Cross-Sectional Bars from Axial Fatigue Information—U. MURALIDHARAN 146

Failure Probability Analysis of Proof Loaded Components—JAMES MARGETSON AND NEIL R. COOPER 153

Chimney Venting Performance Study—J. TIMUSK, A. L. SESKUS, K. A. SELBY, AND J. RINELLA 158

Dynamic Tests on Full-Scale Structures of Glue-Laminated Timber: Theoretical and Experimental Studies—ARIO CECCOTTI AND ANDREA VIGNOLI 178

Cryogenic Fatigue Properties of 304L and 316L Stainless Steels Compared to Mechanical Strength and Increasing Magnetic Permeability—KENICHI SUZUKI, JUICHI FUKAKURA, AND HIDEO KASHIWAYA 190

A Microcomputer-Aided Four-Point Bend Test System for Determining Uniaxial Stress-Strain Curves—T. YOKOYAMA 198

Investigation of the Influence of Impact Velocity and Temperature on the Dynamic Mechanical Properties of the Material 22 NiMoCr 37—KLAUS KROMPHOLZ AND GEORG ULLRICH 205

Strength and Stiffness of Metal Railing Systems and Rails for Buildings—E. GEORGE STERN 214

Lateral Collapse Potential of Wood Stringer-Type Pallets—T. E. McLAIN AND D. L. ARRITT 222

Development of a Miniaturized Specimen Technique for Fracture Toughness J_{Ic} Measurement—XINYUAN MAO, TETSUO SHOJI, AND HIDEAKI TAKAHASHI 229

Technical Note: The Barnacle Electrode: A Compromise Between Analysis and Experiment—MALCOLM A. FULLENWIDER 242

Technical Note: Development of a Test Setup to Simulate Pipe Reaction End Loading on Large Valves—G. JAYARAMA RAO, R. NARAYANAN, R. MURUGANANTHAM, AND B. JAYAKAR 244

No. 3, May

Design and Development of a Biaxial Strength Testing Device—G. FERRON AND A. MAKINDE 253
Crack Length Measurement During Rapid Crack Growth Using an Alternating-Current Potential Difference Method—J. A. JOYCE AND C. S. SCHNEIDER 257
Strain Measurement Technique for Elevated Temperature Tensile and Creep Testing of Foil-Gage Metals—L. B. BLACKBURN 271
The Risks of Extrapolations of Metal Fatigue Data—H. O. FUCHS AND M. V. JOHNS 276
A Method for Obtaining Conservative *S-N* Data for Welded Structures—HARUMASA NAKAMURA, SATOSHI NISHIJIMA, AKIHIKO OHTA, YOSHIO MAEDA, KAZUO UCHINO, TAKESUKE KOHNO, KIYOAKI TOYOMASU, AND ISAO SOYA 280
Strain Gage Analysis of Residual Stress in Plastic Pipes—KAMEL CHAOUI, ABDELSAMIE MOET, AND ALEXANDER CHUDNOVSKY 286
Evaluation of Singular Intensity Factors in Elastic-Plastic Materials—H. L. GROTH AND I. BROTTARE 291
Effect of Prestrain on Fracture Toughness of Rolled Mild Steel with Significant Inclusion Content—P. R. ARORA, M. R. RAGHAVAN, AND Y. V. R. K. PRASAD 298
Effect of Nonmetallic Inclusions on Some Ductility Parameters of Hot-Rolled Steel Sheet—BORUT PRETNAR AND ROBERT A. N. YEBUAH 305
Impact Testing of Flexible Polyurethane Foams—V. O. SHESTOPAL AND B. CHILCOTT 312
Liquid Filtration: Examples of the Effects of Temperature, Viscosity, and Liquid Flow Rate—PETER R. JOHNSTON 319
Granule Embedment on Shingles and Roofing Membranes—O. DUFF 322
Discussion of, and Response to, "Effect of Axial Compression"—JAN GRABOWSKI AND L. J. JAVORIK 328

No. 4, July

Complementary Statistical Methodology for Precision and Bias Determination of Test Methods from Collaborative Studies on Analysis of Solutes in Water Cited in ASTM Standard Practice D 2777-86—MICHAEL J. GODDARD AND MURUGAN MALAIYANDI 337
Simple Measuring System for Electrical Energy Consumed by Auxiliaries for Advanced Batteries—MASAYUKI FUTAMATA AND SACHIO TAKAHASHI 345
Dynamic Properties of Asphalt Concrete—JORGE SOUSA AND C. L. MONISMITH 350
Mode II Wood Test Specimen: Beam with Center Slit—J. F. MURPHY 364
Measurement of the Spherical Tip of Rockwell Indenters—GIULIO BARBATO AND SERGIO DESOGUS 369
An Analysis of Notch-Size Effects at the Fatigue Limit—D. L. DU QUESNAY, M. T. YU, AND T. H. TOPPER 375
Prediction of Specimen Strain from Extensometer Deflection Measurements in a Direct Stress Fatigue Test Specimen under Static Tensile Loading—P. R. ARORA AND M. R. RAGHAVAN 386

SYMPOSIUM ON THE FITTING OF FOOTWEAR

Introduction—ARTHUR W. TROTT 392
The Futile Search for the Perfect Shoe Fit—WILLIAM A. ROSSI 393
Fitting a Population of Feet—JOHN F. HICKS 404
Foot Measurement Strategies for Fitting Athletes—RICHARD P. BUNCH 407
Sensory Attenuation Induced by Modern Athletic Footwear—STEVEN E. ROBBINS, ADEL HANNA, AND LYNETTE A. JONES 412
Custom Footwear: The Role of Computer-Aided Engineering—ANTHONY STAROS AND ROBERT S. SCHWARTZ 417
A 1986-1987 Study of Consumer Problems in Shopping for Footwear, with Emphasis on Size and Fit—CHARLES COLLAZZO 421

No. 5, September

A Direct *J-R* Curve Analysis of Fracture Toughness Tests—R. HERRERA AND J. D. LANDES 427
Evaluation of Creep Rupture Behavior of 1Cr-1Mo-0.25V Steel with 0.04 wt% Sn—S. A. BASHU, KULVIR SINGH, AND K. M. CHOWDARY 450
X-Ray Residual Stress Measurements in Notched Test Specimens—N. E. DOWLING, R. W. HENDRICKS, AND K. RANGANATHAN 456
Strain-Hardening Characteristics of Aluminum-1050A α-(70/30) Brass, and Austenitic Stainless Steel under Biaxial Loading—A. MAKINDE AND G. FERRON 461
Evaluation Procedure for Low Cycle Fatigue Data—SUSAN K. FOSS 470
Effects of Testing Variables on Damping and Stiffness of Nailed Wood-to-Sheathing Joints—A. POLENSEK 474
Additives for Bitumen in Road Construction—J. P. JAIN, A. K. GUPTA, S. K. KHANNA, AND S. S. JAIN 481
Technical Note: Indirect Measurements of Compliances in Four-Point-Bending Tests—THEO FETT AND EBERHARD DIEGELE 487
Technical Note: Comparison of Compliance Results for the Wedge-Loaded Compact Specimen—J. H. UNDERWOOD AND J. C. NEWMAN, JR. 489
Technical Note: Changes in AISC Specification for High-Strength Steel Bolt Use—AMERICAN IRON AND STEEL INSTITUTE 492

No. 6, November

Experimental Verification of a Finite Element Contact Analysis—NAMMALWAR PURUSHOTHAMAN, BRIAN S. HEATON, AND IAN D. MOORE 497
Statistical Design of Fatigue Crack Growth Test Programs—GARY C. SALIVAR AND DAVID W. HOEPPNER 508
A Pin-on-Drum Abrasive Wear Test and Comparison with Other Pin Tests—R. BLICKENSDERFER AND G. LAIRD II 516
Predicting the Durability of Bricks—DOUGLAS N. WINSLOW, CAROL L. KILGOUR, AND ROBERT W. CROOKS 527
Structure/Property Relationship for Normalized Pipe Flanges (Grade LF2) Made to ASTM Specification A 350/A 350M—B. MINTZ 532
Technical Note: Consumer-Friendly Labels—ROBERT S. SHANE 545
Technical Note: Field Testing Device for Railing Systems and Rails—E. GEORGE STERN 546
Technical Note: A Fatigue Test Machine for Biaxial Compression of Concrete—ERIC C. M. SU AND THOMAS T. C. HSU 549
Technical Note: Plastic Rotation Factors of Three-Point Bend and Compact Tension Specimens—SHANG-XIAN WU, YIU-WING MAI, AND BRIAN COTTERELL 555

Journal of Testing and Evaluation
Author Index to Volume 16
1988

Number	Month of Issue	Pages
1	January	1–110
2	March	111–252
3	May	253–336
4	July	337–426
5	September	427–496
6	November	497–574

A-B

Abril, E. R.: Determination of K_c and residual strength values for sheet materials, Jan., 38

Akhtar, A.: Localized intrinsic strengthening approach (LISA): A practical method for determining the tensile strength of multistrand cables, March, 124

Ali, J. A.: *see* Ebrahimi, F. and Ali, J. A.

Arora, P. R. and Raghavan, M. R.: Prediction of specimen strain from extensometer deflection measurements in a direct stress fatigue test specimen under static tensile loading, July, 386

Arora, P. R., Raghavan, M. R., and Prasad, Y. V. R. K.: Effect of prestrain on fracture toughness of rolled mild steel with significant inclusion content, May, 298

Arritt, D. L.: *see* McLain, T. E. and Arritt, D. L.

Baratta, F. I.: Load-point compliance of a three-point loaded cracked-notched beam, Jan., 59

Barbato, G. and Desogus, S.: Measurement of the spherical tip of Rockwell indenters, July, 369

Bashu, S. A., Singh, K., and Chowdary, K. M.: Evaluation of creep rupture behavior of 1Cr-1Mo-0.25V steel with 0.04 wt% Sn, Sept., 450

Blackburn, L. B.: Strain measurement technique for elevated temperature tensile and creep testing of foil-gage metals, May, 271

Blickensderfer, R. and Laird, G., II: A pin-on-drum abrasive wear test and comparison with other pin tests, Nov., 516

Brottare, I.: *see* Groth, H. L. and Brottare, I.

Bunch, R. P.: Foot measurement strategies for fitting athletes, July, 407

C-D

Ceccotti, A. and Vignoli, A.: Dynamic tests on full-scale structures of glue-laminated timber: theoretical and experimental studies, March, 178

Chaoui, K., Moet, A., and Chudnovsky, A.: Strain gage analysis of residual stress in plastic pipes, May, 286

Chilcott, B.: *see* Shestopal, V. O. and Chilcott, B.

Chowdary, K. M.: *see* Bashu, S. A., Singh, K., and Chowdary, K. M.

Chudnovsky, A.: *see* Chaoui, K., Moet, A., and Chudnovsky, A.

Chusid, M.: Review of *Movement Control in the Fabric of Buildings* by Rainger, Jan., 109

Clayton, J. Q. and Rogers, C. B.: A cleavage precracking technique for sheet steel fracture specimens, Jan., 33

Collazzo, C.: A 1986–1987 study of consumer problems in shopping for footwear, with emphasis on size and fit, July, 421

Cooper, N. R.: *see* Margetson, J. and Cooper, N. R.

Cotterell, B.: *see* Wu, S.-X., Mai, Y.-W., and Cotterell, B.

Cox, D. W.: Introduction to symposium on the application of coal sampling and coal preparation to petroleum coke, Jan., 90

Crooks, R. W.: *see* Winslow, D. N., Kilgour, C. L., and Crooks, R. W.

Desogus, S.: *see* Barbato, G. and Desogus, S.

Diegele, E.: *see* Fett, T. and Diegele, E.

Ding, J. L., Lee, S. R., and Ortiz, R.: A simple, high precision biaxial extensometer for high temperature creep study, Jan., 72

Dowling, N. E., Hendricks, R. W., and Ranganathan, K.: X-ray residual stress measurements in notched test specimens, Sept., 450

Du Quesnay, D. L., Yu, M. T., and Topper, T. H.: An analysis of notch-size effects at the fatigue limit, July, 375

Dutt, O.: Granule embedment on shingles and roofing membranes, May, 322

E-G

Ebrahimi, F. and Ali, J. A.: Evaluation of published data on ductile initiation fracture toughness of low-alloy structural steels, March, 113

Eisele, U.: *see* Roos, E. and Eisele, U.

Engelke, G. H.: A review of petroleum coke preparation procedures, Jan., 91

Ferron, G.: *see* Makinde, A. and Ferron, G.

Ferron, G. and Makinde, A.: Design and development of a biaxial strength testing device, May, 253

Fett, T. and Diegele, E.: Indirect measurements of compliances in four-point-bending tests, Sept., 487

Foss, S. K.: Evaluation procedure for low cycle fatigue data, Sept., 470

Fuchs, H. O. and Johns, M. V.: The risk of extrapolations of metal fatigue data, May, 276

Fukakura, J.: *see* Suzuki, K., Fukakura, J., and Kashiwaya, H.

Fullenwider, M. A.: The barnacle electrode: a compromise between analysis and experiment, March, 242

Futamata, M. and Takahashi, S.: Simple measuring system for electrical energy consumed by auxiliaries for advanced batteries, July, 345

Goddard, M. J. and Malaiyandi, M.: Complementary statistical methodology for precision and bias determination of test methods from collaborative studies on analysis of solutes in water cited in ASTM Standard Practice D 2777-86, July, 337

Gradowski, J.: Discussion of "Effect of Axial Compression," May, 328

Griswold, N.: *see* Hough, C. L., Jr., Lednicky, T. E., and Griswold, N.

Groth, H. L. and Brottare, I.: Evaluation of singular intensity factors in elastic-plastic materials, May, 291

Gupta, A. K.: *see* Jain, J. P., Gupta, A. K., Khanna, S. K., and Jain, S. S.

H-J

Hanna, A.: *see* Robbins, S. E., Hanna, A., and Jones, L. A.

Heaton, B. S.: *see* Purushothaman, N., Heaton, B. S., and Moore, I. D.

Hendricks, R. W.: *see* Dowling, N. E., Hendricks, R. W., and Ranganathan, K.

Herrera, R. and Landes, J. D.: A direct *J-R* curve analysis of fracture toughness tests, Sept., 427

Hicks, J. F.: Fitting a population of feet, July, 404

Hoeppner, D. W.: *see* Salivar, G. C. and Hoeppner, D. W.

Hough, C. L., Jr., Lednicky, T. E., and Griswold, N.: Establishing criteria for a computerized vision inspection of holes drilled in carbon fiber composites, March, 139

Hsu, T. T. C.: *see* Su, E. C. M. and Hsu, T. T. C.

Inn, K. G. W.: Review of *Radiological Assessment: Predicting the Transport, Bioaccumulation, and Uptake by Man of Radionuclides Released to the Environment*, Jan., 109

Jain, J. P., Gupta, A. K., Khanna, S. K., and Jain, S. S.: Additives for bitumen in road construction, Sept., 481

Jain, S. S.: *see* Jain, J. P., Gupta, A. K., Khanna, S. K., and Jain, S. S.

James, W. B.: Review of *Powder Metallurgy Equipment Manual (Third Edition)* edited by Bradbury, Nov., 558

Javorik, L. J.: Response to J. Grabowski's discussion of "Effect of Axial Compression," May, 332

Jayakar, B.: *see* Rao, G. J., Narayanan, R., Murugananthan, R., and Jayakar, B.

Johns, M. V.: *see* Fuchs, H. O. and Johns, M. V.

Johnston, P. R.: Liquid filtration: examples of the effects of temperature, viscosity, and liquid flow rate, May, 319
Jones, L. A.: *see* Robbins, S. E., Hanna, A., and Jones, L. A.
Joshi, R. C.: *see* Nagaraj, T. S., Joshi, R. C., and Srinivasa Murthy, B. R.
Joyce, J. A. and Schneider, C. S.: Crack length measurement during rapid crack growth using an alternating-current potential difference method, May, 257

K-L

Kashiwaya, H.: *see* Suzuki, K., Fukakura, J., and Kashiwaya, H.
Kemppainen, M. J.: *see* Rahka, K. A., Solin, M. P., and Kemppainen, M. J.
Khanna, S. K.: *see* Jain, J. P., Gupta, A. K., Khanna, S. K., and Jain, S. S.
Kilgour, C. L.: *see* Winslow, D. N., Kilgour, C. L., and Crooks, R. W.
Kinra, V. K.: *see* Wren, G. G. and Kinra, V. K.
Kohno, T.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.
Krausz, A. A.: *see* Mshana, J. S. and Krausz, A. S.
Krompholz, K. and Ullrich, G.: Investigation of the influence of impact velocity and temperature on the dynamic mechanical properties of the material 22 NiMoCr 37, March, 205
Lai, C. C.: Flow of semi-solid foods over inclined packaging surfaces as an index of traction, March, 134
Laird, G., II: *see* Blickensderfer, R. and Laird, G., II
Landes, J. D.: *see* Herrera, R. and Landes, J. D.
Lednicky, T. E.: *see* Hough, C. L., Jr., Lednicky, T. E., and Griswold, N.
Lee, S. R.: *see* Ding, J. L., Lee, S. R., and Ortiz, R.

M

McLain, T. E. and Arritt, D. L.: Lateral collapse potential of wood stringer-type pallets, March, 222
Maeda, Y.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.
Mai, Y.-W.: *see* Wu, S.-X., Mai, Y.-W., and Cotterell, B.
Makinde, A.: *see* Ferron, G. and Makinde, A.
Makinde, A. and Ferron, G.: Strain-hardening characteristics of aluminum-1050A, α-(70/30) brass, and austenitic stainless steel under biaxial loading, Sept., 461
Malaiyandi, M.: *see* Goddard, M. J. and Malaiyandi, M.
Mao, X., Shoji, T., and Takahashi, H.: Development of a miniaturized specimen technique for fracture toughness J_{Ic} measurement, March, 229
Margetson, J. and Cooper, N. R.: Failure probability analysis of proof loaded components, March, 153
Mintz, B.: Structure/property relationship for normalized pipe flanges (grade LF2) made to ASTM specification A 350/A 350M, Nov., 532
Moet, A.: *see* Chaoui, K., Moet, A. and Chudnovsky, A.
Monismith, C. L.: *see* Sousa, J. and Monismith, C. L.
Moore, I.D.: *see* Purushothaman, N., Heaton, B. S., and Moore, I. D.
Mshana, J. S. and Krausz, A. S.: On the analysis of thermally activated tension-tension cyclic deformation behavior, Jan., 22
Muralidharan, U.: Fatigue life prediction in flexural bending of hollow cross-sectional bars from axial fatigue information, March, 146
Murphy, J. F.: Mode II wood test specimen: beam with center slit, July, 364
Muruganantham, R.: *see* Rao, G. J., Narayanan, R., Muruganantham, R., and Jayakar, B.

N-P

Nagaraj, T. S., Joshi, R. C., and Srinivasa Murthy, B. R.: Generalized equation for compression ratio, Jan., 86
Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.: A method for obtaining conservative *S-N* data for welded structures, May, 280
Narayanan, R.: *see* Rao, G. J., Narayanan, R., Muruganantham, R., and Jayakar, B.
Newman, J. C., Jr.: *see* Underwood, J. H. and Newman, J. C., Jr.
Nishijima, S.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.
Ohta, A.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.
Ortiz, R.: *see* Ding, J. L., Lee, S. R., and Ortiz, R.
Pandey, R. K.: *see* Pratap, C. R. and Pandey, R. K.
Polensek, A.: Effects of testing variables on damping and stiffness of nailed wood-to-sheathing joints, Sept., 474
Polvani, R. S., Ruff, A. W., Jr., and Whitenton, E. P.: A dynamic microindentation apparatus for materials characterization, Jan., 12
Prasad, Y. V. R. K.: *see* Arora, P. R., Raghavan, M. R., and Prasad, Y. V. R. K.
Pratap, C. R. and Pandey, R. K.: Evaluation of notch tip opening displacement using a composite crack profile approach, Jan., 17
Pretnar, B. and Yebuah, R. A. N.: Effect of nonmetallic inclusions on some ductility parameters of hot-rolled steel sheet, May, 305
Purushothaman, N., Heaton, B. S., and Moore, I. D.: Experimental verification of a finite element contact analysis, Nov., 497

R

Raghavan, M. R.:
see Arora, P. R. and Raghavan, M. R.
see also Arora, P. R., Raghavan, M. R., and Prasad, Y. V. R. K.
Rahka, K. A., Solin, J. P., and Kemppainen, M. J.: Diametral strain response and microstructural yielding mechanisms of a bainitic pressure vessel steel, Jan., 44
Ranganathan, K.: *see* Dowling, N. E., Hendricks, R. W., and Ranganathan, K.
Rao, G. J., Narayanan, R., Muruganantham, R., and Jayakar, B.: Development of a test setup to simulate pipe reaction end loading on large valves, March, 244
Rinella, J.: *see* Timusk, J., Seskus, A. L., Selby, K. A., and Rinella, J.
Robbins, S. E., Hanna, A., and Jones, L. A.: Sensory attenuation induced by modern athletic footwear, July, 412
Rogers, C. B.: *see* Clayton, J. Q. and Rogers, C. B.
Roos, E. and Eisele, U.: Determination of material characteristic values in elastic-plastic fracture mechanics by means of *J*-integral crack resistance curves, Jan., 1
Rossi, W. A.: The futile search for the perfect shoe fit, July, 393
Ruff, A. W., Jr.: *see* Polvani, R. S., Ruff, A. W., Jr., and Whitenton, E. P.

S

Sallvar, G. C. and Hoeppner, D. W.: Statistical design of fatigue crack growth test programs, Nov., 508
Savage, K. I.: Sampling variance: bias and reproducibility, Jan., 94
Schneider, C. S.: *see* Joyce, J. A. and Schneider, C. S.
Schwartz, R. S.: *see* Staros, A. and Schwartz, R. S.
Selby, K. A.: *see* Timusk, J., Seskus, A. L., Selby, K. A., and Rinella, J.
Seskus, A. L.: *see* Timusk, J., Seskus, A. L., Selby, K. A., and Rinella, J.
Shane, R. S.: Consumer-friendly labels, Nov., 545
Shestopal, V. O. and Chilcott, B.: Impact testing of flexible polyurethane foams, May, 312
Shockley, W. G.: Review of *Innovation: A Challenge to the Engineer* by Holt, Sept., 495
Shoji, T.: *see* Mao, X., Shoji, T., and Takahashi, H.
Singh, K.: *see* Bashu, S. A., Singh, K., and Chowdary, K. M.
Solin, J. P.: *see* Rahka, K. A., Solin, J. P., and Kemppainen, M. J.
Sousa, J. and Monismith, C. L.: Dynamic properties of asphalt concrete, July, 350
Soya, I.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.
Srinivasa Murthy, B. R.: *see* Nagaraj, T. S., Joshi, R. C., and Srinivasa Murthy, B. R.
Staros, A. and Schwartz, R. S.: Custom footwear: the role of computer-aided engineering, July, 417
Stern, E. G.:
Field testing device for railing systems and rails, Nov., 546
Strength and stiffness of metal railing systems and rails for buildings, March, 214
Su, E. C. M. and Hsu, T. T. C.: A fatigue test machine for biaxial compression of concrete, Nov., 549
Suzuki, K., Fukakura, J., and Kashiwaya, H.: Cryogenic fatigue properties of 304L and 316L stainless steels compared to mechanical strength and increasing magnetic permeability, March, 190

T-Y

Takahashi, H.: *see* Mao, X., Shoji, T., and Takahashi, H.

Takahashi, S.: *see* Futamata, M. and Takahashi, S.

Taylor, L. W., III: Sampling techniques applicable to petroleum coke, Jan., 105

Timusk, J., Seskus, A. L., Selby, K. A., and Rinella, J.: Chimney venting performance study, March, 158

Topper, T. H.: *see* Du Quesnay, D. L., Yu, M. T., and Topper, T. H.

Toyomasu, K.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.

Trott, A. W.: Introduction to symposium on the fitting of footwear, July, 392

Turner, J. E.: Review of *NCRP Report No. 93: Ionizing Radiation Exposure of the Population of the United States*, Nov., 558

Uchino, K.: *see* Nakamura, H., Nishijima, S., Ohta, A., Maeda, Y., Uchino, K., Kohno, T., Toyomasu, K., and Soya, I.

Ullrich, G.: *see* Krompholz, K. and Ullrich, G.

Underwood, J. H. and Newman, J. C., Jr.: Comparison of compliance results for the wedge-loaded compact specimen, Sept., 489

Vignoli, A.: *see* Ceccotti, A. and Vignoli, A.

Westbrook, J. H.: Review of *Materials and the Designer* by Cornish, Sept., 495

Whitenton, E. P.: *see* Polvani, R. S., Ruff, A. W., Jr., and Whitenton, E. P.

Winslow, D. N., Kilgour, C. L., and Crooks, R. W.: Predicting the durability of bricks, Nov., 527

Wren, G. G. and Kinra, V. R.: An experimental technique for determining a measure of structural damping, Jan., 77

Wu, S.-X., Mai, Y.-W., and Cotterell, B.: Plastic rotation factors of three-point bend and compact tension specimens, Nov., 555

Yebuah, R. A. N.: *see* Pretnar, B. and Yebuah, R. A. N.

Yokoyama, T.: A microcomputer-aided four-point bend test system for determining uniaxial stress-strain curves, March, 198

Yu, M. T.: *see* Du Quesnay, D. L., Yu, M. T., and Topper, T. H.

Journal of Testing and Evaluation
Subject Index to Volume 16
1988

A–B

Accuracy
Simple measuring system for electrical energy consumed by auxiliaries for advanced batteries (Futamata and Takahashi), July, 345

Adhesion of granules
Granule embedment on shingles and roofing membranes (Dutt), May, 322

Adhesive joints
Evaluation of singular intensity factors in elastic-plastic materials (Groth and Brottare), May, 291

AISC specification
Changes in AISC Specification for high-strength steel bolt use (American Iron & Steel Institute), Sept., 492

American Iron & Steel Institute: Changes in AISC specification for high-strength steel bolt use, Sept., 492

Asphalt concrete
Dynamic properties of asphalt concrete (Sousa and Monismith), July, 350

ASTM Committee F-15
Consumer-friendly labels (Shane), Nov., 545

Axial fatigue
Fatigue life prediction in flexural bending of hollow cross-sectional bars from axial fatigue information (Muralidharan), March, 146

Bainitic steels
Diametral strain response and microstructural yielding mechanisms of a bainitic pressure vessel steel (Rahka, Solin, and Kemppainen), Jan., 44

Barnacle electrode
The barnacle electrode: a compromise between analysis and experiment (Fullenwider), March, 242

Bending fatigue
Fatigue life prediction in flexural bending of hollow cross-sectional bars from axial fatigue information (Muralidharan), March, 146

Bending formulae
A microcomputer-aided four-point bend test system for determining uniaxial stress-strain curves (Yokoyama), March, 198

Bending test
Indirect measurements of compliances in four-point-bending tests (Fett and Diegele), Sept., 487

Bias
Complementary statistical methodology for precision and bias determination of test methods from collaborative studies on analysis of solutes in water cited in ASTM Standard Practice D 2777-86 (Goddard and Malaiyandi), July, 337
Sampling variance: bias and reproducibility (Savage), Jan., 94

Biaxial device
Design and development of a biaxial strength testing device (Ferron and Makinde), May, 253
Strain-hardening characteristics of aluminum-1050A, α-(70/30) brass, and austenitic stainless steel under biaxial loading (Makinde and Ferron), Sept., 461

Biaxial extensometer
A simple, high precision biaxial extensometer for high temperature creep study (Ding, Lee, and Ortiz), Jan., 72

Biaxial stress
A fatigue test machine for biaxial compression of concrete (Su and Hsu), Nov., 549

Biaxial tests
Design and development of a biaxial strength testing device (Ferron and Makinde), May, 253
Strain-hardening characteristics of aluminum-1050A, α-(70/30) brass, and austenitic stainless steel under biaxial loading (Makinde and Ferron), Sept., 461

Bi-electrode cell
The barnacle electrode: A compromise between analysis and experiment (Fullenwider), March, 242

Biomechanics of running
Sensory attenuation induced by modern athletic footwear (Robbins, Hanna, and Jones), July, 412

Bitumen
Additives for bitumen in road construction (Jain, Gupta, Khanna, and Jain), Sept., 481

Bituminous surfaces
Additives for bitumen in road construction (Jain, Gupta, Khanna, and Jain), Sept., 481

Book reviews
Aquatic Toxicity of Pulp and Paper Mill Effluent: A Review (Cowgill), May, 333
Innovation: A Challenge to the Engineer by Holt (Shockley), Sept., 495
Materials and the Designer by Cornish (Westbrook), Sept., 495
Movement Control in the Fabric of Buildings by Rainger (Chusid), Jan., 109
NCRP Report No. 93: Ionizing Radiation Exposure of the Population of the United States (Turner), Nov., 558
Powder Metallurgy Equipment Manual (Third Edition) edited by Bradbury (James), Nov., 558
Radiological assessment: Predicting the Transport, Bioaccumulation, and Uptake by Man of Radionuclides Released to the Environment (Inn), Jan., 109

Bricks
Predicting the durability of bricks (Winslow, Kilgour, and Crooks), Nov., 527

Brownian diffusivity
Liquid filtration: examples of the effects of temperature, viscosity, and liquid flow rate (Johnston), May, 319

Brush platens
A fatigue test machine for biaxial compression of concrete (Su and Hsu), Nov., 549

Buildings
Field testing device for railing systems and rails (Stern), Nov., 546

Butt joint
Evaluation of singular intensity factors in elastic-plastic materials (Groth and Brottare), May, 291

C–D

Cleavage
A cleavage precracking technique for sheet steel fracture specimens (Clayton and Rogers), Jan., 33

Compliance
Comparison of compliance results for the wedge-loaded compact specimen (Underwood and Newman), Sept., 489
Indirect measurements of compliances in four-point-bending tests (Fett and Diegele), Sept., 487
Load-point compliance of a three-point loaded cracked-notched beam (Baratta), Jan., 59

Composite crack profile
Evaluation of notch tip opening displacement using a composite crack profile approach (Pratap and Pandey), Jan., 17

Composite material
An experimental technique for determining a measure of structural damping (Wren and Kinra), Jan., 77

Composites
Establishing criteria for a computerized vision inspection of holes drilled in carbon fiber composites (Hough, Lednicky, and Griswold), March, 139

Compression index
Generalized equation for compression ratio (Nagaraj, Joshi, and Srinivasa Murthy), Jan., 86

Compression ratio
Generalized equation for compression ratio (Nagaraj, Joshi, and Srinivasa Murthy), Jan., 86

Computer-aided design (CAD)
Custom footwear: the role of computer-aided engineering (Staros and Schwartz), July, 417

Concrete
A fatigue test machine for biaxial compression of concrete (Su and Hsu), Nov., 549

Constant shear strain rate test
A simple, high precision biaxial extensometer for high temperature creep study (Ding, Lee, and Ortiz), Jan., 72

Consumer-friendly
Consumer-friendly labels (Shane), Nov., 545

Consumer shopping problems
A 1986–1987 study of consumer problems in shipping for footwear, with emphasis on size and fit (Collazzo), July, 421

Cracked-notched configurations
Load-point compliance of a three-point loaded cracked-notched beam (Baratta), Jan., 59

Crack-opening displacement
Evaluation of published data on ductile initiation fracture toughness of low-alloy

structural steels (Ebrahimi and Ali), March, 113

Crack tip opening displacement
Plastic rotation factors of three-point bend and compact tension specimens (WU, Mai, and Cotterell), Nov., 555

Creep test
Strain measurement technique for elevated temperature tensile and creep testing of foil-gage metals (Blackburn, May, 271

Cruciform specimen
Design and development of a biaxial strength testing device (Ferron and Makinde), May, 253
Strain-hardening characteristics of aluminum-1050A, α-(70/30) brass, and austenitic stainless steel under biaxial loading (Makinde and Ferron), Sept., 461

Cryogenic temperature
Cryogenic fatigue properties of 304L and 316L stainless steels compared to mechanical strength and increasing magnetic permeability (Suzuki, Fukakura, and Kashiwaya), March, 190

Custom footwear
Custom footwear: the role of computer-aided engineering (Staros and Schwartz), July, 417

Cyclic loading
Effects of testing variables on damping and stiffness of nailed wood-to-sheathing joints (Polensek), Sept., 474

Design
Lateral collapse potential of wood stringer-type pallets (McLain and Arritt), March, 222

Determination of J_{Ic}, $J_{0.15}$, and $J_{0.2}$ values
Determination of material characteristic values in elastic-plastic fracture mechanics by means of *J*-integral crack resistance curves (Roos and Eisele), Jan., 1

Diametral strain response
Diametral strain response and microstructural yielding mechanisms of a bainitic pressure vessel steel (Rahka, Solin, and Kemppainen), Jan., 44

Diamond indenter
Measurement of the spherical tip of Rockwell indenters (Barbato and Desogus), July, 369

Ductility
Effect of nonmetallic inclusions on some ductility parameters of hot-rolled steel sheet (Pretnar and Yebuah), May, 305

Durability
Predicting the durability of bricks (Winslow, Kilgour, and Crooks), Nov., 527

Durability testing
Predicting the durability of bricks (Winslow, Kilgour, and Crooks), Nov., 527

Dynamic elastic modulus
Dynamic properties of asphalt concrete (Sousa and Monismith), July, 350

Dynamic loading
Crack length measurement during rapid crack growth using an alternating-current potential difference method (Joyce and Schneider), May, 257

Dynamic properties
A dynamic microindentation apparatus for materials characterization (Polvani, Ruff, and Whitenton), Jan., 12

Dynamic shear modulus
Dynamic properties of asphalt concrete (Sousa and Monismith), July, 350

Dynamic testing
Effects of testing variables on damping and stiffness of nailed wood-to-sheathing joints (Polensek), Sept., 474

Dynamic tests
Dynamic tests on full-scale structures of glue-laminated timber: theoretical and experimental studies (Ceccotti and Vignoli), March, 178

E-F

Elastic-plastic fracture
A direct *J-R* curve analysis of fracture toughness tests (Herrera and Landes), Sept., 427
Crack length measurement during rapid crack growth using an alternating-current potential difference method (Joyce and Schneider), May, 257

Elongation
Effect of nonmetallic inclusions on some ductility parameters of hot-rolled steel sheet (Pretnar and Yebuah), May, 305

Engineering judgement
Evaluation procedure for low cycle fatigue data (Foss), Sept., 470

Extrapolation
The risks of extrapolations of metal fatigue data (Fuchs and Johns), May, 276

Failure prediction
Failure probability analysis of proof loaded components (Margetson and Cooper), March, 153

Failure probability
Failure probability analysis of proof loaded components (Margetson and Cooper), March, 153

Fatigue
Cryogenic fatigue properties of 304L and 316L stainless steels compared to mechanical strength and increasing magnetic permeability (Suzuki, Fukakura, and Kashiwaya), March, 190

Fatigue crack growth
Statistical design of fatigue crack growth test programs (Salivar and Hoeppner), Nov., 508

Fatigue (metals)
An analysis of notch-size effects at the fatigue limit (Du Quesnay, Yu, and Topper), July, 375

Fatigue notch factor
An analysis of notch-size effects at the fatigue limit (Du Quesnay, Yu, and Topper), July, 375

Fatigue of metals
A method for obtaining conservative *S-N* data for welded structures (Nakamura, Nishijima, Ohta, Maeda, Uchino, Kohno, Toyomasu, and Soya), May, 280

Fatigue properties
Evaluation procedure for low cycle fatigue data (Foss), Sept., 470

Feet
Fitting a population of feet (Hicks), July, 404
The futile search for the perfect shoe fit (Rossi), July, 393

Finite element analysis
Experimental verification of a finite element contact analysis (Purushothaman, Heaton, and Moore), Nov., 497

Fit tests
Foot measurement strategies for fitting athletes (Bunch), July, 407

Flexible foam
Impact testing of flexible polyurethane foams (Shestopal and Chilcott), May, 312

Foil-gage metals
Strain measurement technique for elevated temperature tensile and creep testing of foil-gage metals (Blackburn), May, 271

Foods
Flow of semi-solid foods over inclined packaging surfaces as an index of traction (Lai), March, 34

Foot measurement
Foot measurement strategies for fitting athletes (Bunch), July, 407

Footwear
A 1986–1987 study of consumer problems in shopping for footwear, with emphasis on size and fit (Collazzo), July, 421
Custom footwear: the role of computer-aided engineering (Staros and Schwartz), July, 417

Footwear fit
A 1986–1987 study of consumer problems in shopping for footwear, with emphasis on size and fit (Collazzo), July, 421

Forged flanges
Structure/property relationship for normalized pipe flanges (grade LF2) made to ASTM specification A 350/A 350M (Mintz), Nov., 532

Forging
Evaluation of creep rupture behavior of 1Cr-1Mo-0.25V steel with 0.04 wt% Sn (Bashu, Singh, and Chowdary), Sept., 450

Four-point bend test
A microcomputer-aided four-point bend test system for determining uniaxial stress-strain curves (Yokoyama), March, 198

4340 steel
The barnacle electrode: a compromise between analysis and experiment (Fullenwider), March, 242

Fracture mechanics
Determination of K_c and residual strength values for sheet materials (Abril), Jan., 38
Indirect measurements of compliance in four-point-bending tests (Fett and Diegele), Sept., 487
Load-point compliance of a three-point loaded cracked-notched beam (Baratta), Jan., 59

Fracture testing
A cleavage precracking technique for sheet steel fracture specimens (Clayton and Rogers), Jan., 33

Fracture toughness
A direct *J-R* curve analysis of fracture toughness tests (Herrera and Landes), Sept., 427
Determination of K_c and residual strength values for sheet materials (Abril), Jan., 38

Fracture toughness (J_{Ic})
Development of a miniaturized specimen technique for fracture toughness J_{Ic} measurement (Mao, Shoji, and Takahashi), March, 229

Frequency
Statistical design of fatigue crack growth

test programs (Salivar and Hoeppner), Nov., 508

G-L

Gas-fired appliances
Chimney venting performance study (Timusk, Seskus, Selby, and Rinella), March, 158
Gate valve
Development of a test setup to simulate pipe reaction end loading on large valves (Rao, Narayanan, Muruganantham, and Jayakar), March, 244
Generalized soil state parameter
Generalized equation for compression ratio (Nagaraj, Joshi, and Srinivasa Murthy), Jan., 86
Granule embedment
Granule embedment on shingles and roofing membranes (Dutt), May, 322
Hardness
A dynamic microindentation apparatus for materials characterization (Polvani, Ruff, and Whitenton), Jan., 12
High-strength low-alloy steel
Evaluation of published data on ductile initiation fracture toughness of low-alloy structural steels (Ebrahimi and Ali), March, 113
House depressurization
Chimney venting performance study (Timusk, Seskus, Selby, and Rinella), March, 158
Hysteresis
Effects of testing variables on damping and stiffness of nailed wood-to-sheathing joints (Polensek), Sept., 474
Impact
Impact testing of flexible polyurethane foams (Shestopal and Chilcott), May, 312
Impact properties
Structure/property relationship for normalized pipe flanges (grade LF2) made to ASTM specification A 350/A 350M (Mintz), Nov., 532
Impact strength
A dynamic microindentation apparatus for materials characterization (Polvani, Ruff, and Whitenton), Jan., 12
Impact velocities
Investigation of the influence of impact velocity and temperature on the dynamic mechanical properties of the material 22 NiMoCr 37 (Krompholz and Ullrich), March, 205
Impulse
Investigation of the influence of impact velocity and temperature on the dynamic mechanical properties of the material 22 NiMoCr 37 (Krompholz and Ullrich), March, 205
Inspection
Establishing criteria for a computerized vision inspection of holes drilled in carbon fiber composites (Hough, Lednicky, and Griswold), March, 139
Instrumented impact testing
Investigation of the influence of impact velocity and temperature on the dynamic mechanical properties of the material 22 NiMoCr 37 (Krompholz and Ullrich), March, 205
***J*-integral**
A direct *J-R* curve analysis of fracture toughness tests (Herrera and Landes), Sept., 427
Crack length measurement during rapid crack growth using an alternating-current potential difference method (Joyce and Schneider), May, 257
Evaluation of published data on ductile initiation fracture toughness of low-alloy structural steels (Ebrahimi and Ali), March, 113
J_R-curves
Determination of material characteristic values in elastic-plastic fracture mechanics by means of *J*-integral crack resistance curves (Roos and Eisele), Jan., 1
K_{II}
Mode II wood test specimen: beam with center slit (Murphy), July, 364
Labels
Consumer-friendly labels (Shane), Nov., 545
Lasts
Foot measurement strategies for fitting athletes (Bunch), July, 407
Layer removal
Strain gage analysis of residual stress in plastic pipes (Chaoui, Moet, and Chudnovsky), May, 286
Liquid filtration
Liquid filtration: examples of the effects of temperature, viscosity, and liquid flow rate (Johnston), May, 319
Liquid flow rate
Liquid filtration: examples of the effects of temperature, viscosity, and liquid flow rate (Johnston), May, 319
Logarithmic decrement
An experimental technique for determining a measure of structural damping (Wren and Kinra), Jan., 77
Long-term creep behavior
Evaluation of creep rupture behavior of 1Cr-1Mo-0.25 V steel with a 0.04 wt% Sn (Bashu, Singh, and Chowdary), Sept., 450
Low cycle fatigue
Evaluation procedure for low cycle fatigue data (Foss), Sept., 470
Fatigue life prediction in flexural bending of hollow cross-sectional bars from axial fatigue information (Muralidharan), March, 146

M-Q

Material handling
Lateral collapse potential of wood stringer-type pallets (McLain and Arritt), March, 222
Measurement
Simple measuring system for electrical energy consumed by auxiliaries for advanced batteries (Futamata and Takahashi), July, 345
Metal
Strength and stiffness of metal railing systems and rails for buildings (Stern), March, 214
Metal fatigue
The risks of extrapolations of metal fatigue data (Fuchs and Johns), May, 276
Microcomputers
Simple measuring system for electrical energy consumed by auxiliaries for advanced batteries (Futamata and Takahashi), July, 345
Microstructural effects
Diametral strain response and microstructural yielding mechanisms of a bainitic pressure vessel steel (Rahka, Solin, and Kemppainen), Jan., 44
Mild steel
Effect of prestrain on fracture toughness of rolled mild steel with significant inclusion contest (Arora, Raghavan, and Prasad), May, 298
Mode II
Mode II wood test specimen: beam with center slit (Murphy), July, 364
Multistrand conductor
Localized intrinsic strengthening approach (LISA): a practical method for determining the tensile strength of multistrand cables (Akhtar), March, 124
Nonpropagating crack
An analysis of notch-size effects at the fatigue limit (Du Quesnay, Yu, and Topper), July, 375
Normalized condition
Structure/property relationship for normalized pipe flanges (grade LF2) made to ASTM specification A 350/A 350M (Mintz), Nov., 532
Notch mouth opening displacement
Evaluation of notch tip opening displacement using a composite crack profile approach (Pratap and Pandey), Jan., 17
Notched test specimens
X-ray residual stress measurements in notched test specimens (Dowling, Hendricks, and Ranganathan), Sept., 456
Notch tip opening displacement
Evaluation of notch tip opening displacement using a composite crack profile approach (Pratap and Pandey), Jan., 17
1Cr-1Mo-0.25V steel
Evaluation of creep rupture behavior of 1Cr-1Mo-0.25V steel with 0.04 wt% Sn (Bashu, Singh, and Chowdary), Sept., 450
Packaging
Flow of semi-solid foods over inclined packaging surfaces as an index of traction (Lai), March, 134
Pallet
Lateral collapse potential of wood stringer-type pallets (McLain and Arritt), March, 222
Petroleum coke
A review of petroleum coke preparation procedures (Engelke), Jan., 91
Sampling techniques applicable to petroleum coke (Taylor), Jan., 105
Physical crack initiation value *J*
Determination of material characteristic values in elastic-plastic fracture mechanics by means of *J*-integral crack resistance curves (Roos and Eisele), Jan., 1
Pin abrasion tests
A pin-on-drum abrasive wear test and comparison with other pin tests (Blickensderfer and Laird), Nov., 516
Pipe reaction end loading
Development of a test setup to simulate pipe reaction end loading on large valves (Rao, Narayanan, Muruganantham, and Jayakar), March, 244
Plastic pipes
Strain gage analysis of residual stress in plastic pipes (Chaoui, Moet, and Chudnovsky), May, 286

Plastic rotation factor
Plastic rotation factors of three-point bend and compact tension specimens (Wu, Mai, and Cotterell), Nov., 555
Plastics
Flow of semi-solid foods over inclined packaging surfaces as an index of traction (Lai), March, 134
Polyurethane foam
Impact testing of flexible polyurethane foams (Shestopal and Chilcott), May, 312
Precision
Complementary statistical methodology for precision and bias determination of test methods from collaborative studies on analysis of solutes in water cited in ASTM Standard Practice D 2777-86 (Goddard and Malaiyandi), July, 337
Precracking
A cleavage precracking technique for sheet steel fracture specimens (Clayton and Rogers), Jan., 33
Prestrain
Effect of prestrain on fracture toughness of rolled mild steel with significant inclusion content (Arora, Raghavan, and Prasad), May, 298
Proof testing
Failure probability analysis of proof loaded components (Margetson and Cooper), March, 153
Protective footwear
Sensory attenuation induced by modern athletic footwear (Robbins, Hanna, and Jones), July, 412
Quality assurance
Complementary statistical methodology for precision and bias determination of test methods from collaborative studies on analysis of solutes in water cited in ASTM Standard Practice D 2777-86 (Goddard and Malaiyandi), July, 337

R-S

Railing systems
Field testing device for railing systems and rails (Stern), Nov., 546
Strength and stiffness of metal railing systems and rails for buildings (Stern), March, 214
Rails
Field testing device for railing systems and rails (Stern), Nov., 546
Strength and stiffness of metal railing systems and rails for buildings (Stern), March, 214
Rated tensile strength
Localized intrinsic strengthening approach (LISA): a practical method for determining the tensile strength of multistrand cables (Akhtar), March, 124
Rate theory
On the analysis of thermally activated tension-tension cyclic deformation behavior (Mshana and Krausz), Jan., 22
Reduction in area
Effect of nonmetallic inclusions on some ductility parameters of hot-rolled steel sheet (Pretnar and Yebuah), May, 305
Reproducibility
Sampling variance: bias and reproducibility (Savage), Jan., 94
Residual stress
A method for obtaining conservative *S-N* data for welded structures (Nakamura, Nishijima, Ohta, Maeda, Uchino, Kohno, Toyomasu, and Soya), May, 280
Strain gage analysis of residual stress in plastic pipes (Chaoui, Moet, and Chudnovsky), May, 286
Ridges
Prediction of specimen strain from extensometer deflection measurements in a direct stress fatigue test specimen under static tensile loading (Arora and Raghavan), July, 386
Risk
The risks of extrapolations of metal fatigue data (Fuchs and Johns), May, 276
Road construction
Additives for bitumen in road construction (Jain, Gupta, Khanna, and Jain), Sept., 481
Rockwell hardness
Measurement of the spherical tip of Rockwell indenters (Barbato and Desogus), July, 369
Roundness measurement
Measurement of the spherical tip of Rockwell indenters (Barbato and Desogus), July, 369
Running-related injuries
Sensory attenuation induced by modern athletic footwear (Robbins, Hanna, and Jones), July, 412
Sample integrity
A review of petroleum coke preparation procedures (Engelke), Jan., 91
Sample preparation
A review of petroleum coke preparation procedures (Engelke), Jan., 91
Sampling
Sampling techniques applicable to petroleum coke (Taylor), Jan., 105
Sampling techniques
Sampling techniques applicable to petroleum coke (Taylor), Jan., 105
Sampling variance
Sampling variance: bias and reproducibility (Savage), Jan., 94
Sensitivity
A simple, high precision biaxial extensometer for high temperature creep study (Ding, Lee, and Ortiz), Jan., 72
Shoe fit
Fitting a population of feet (Hicks), July, 404
The futile search for the perfect shoe fit (Rossi), July, 393
Shoe size
Fitting a population of feet (Hicks), July, 404
The futile search for the perfect shoe fit (Rossi), July, 393
Skid resistance
Experimental verification of a finite element contact analysis (Purushothaman, Heaton, and Moore), Nov., 497
Slip-line
Plastic rotation factors of three-point bend and compact tension specimens (Wu, Mai, and Cotterell), Nov., 555
Specimen strain
Prediction of specimen strain from extensometer deflection measurements in a direct stress fatigue test specimen under static tensile loading (Arora and Raghavan), July, 386
Stainless steels
Cryogenic fatigue properties of 304L and 316L stainless steels compared to mechanical strength and incresing magnetic permeability (Suzuki, Fukakura, and Kashiwaya), March, 190
Steel bolts
Changes in AISC specification for high-strength steel bolt use (American Iron & Steel Institute), Sept., 492
Stress analysis
Evaluation of singular intensity factors in elastic-plastic materials (Groth and Brottare), May, 291
Stress intensity factor
Comparison of compliance results for the wedge-loaded compact specimen (Underwood and Newman), Sept., 489
Mode II wood test specimen: beam with center slit (Murphy), July, 364
Stress intensity range
Statistical design of fatigue crack growth test programs (Salivar and Hoeppner), Nov., 508
Stress relaxation
On the analysis of thermally activated tension-tension cyclic deformation behavior (Mshana and Krausz), Jan., 22
Stress-strain curve
A microcomputer-aided four-point bend test system for determining uniaxial stress-strain curves (Yokoyama), March, 198
Structural damping
An experimental technique for determining a measure of structural damping (Wren and Kinra), Jan., 77
Structural steel
Changes in AISC specification for high-strength steel bolt use (American Iron & Steel Institute), Sept., 492

T-X

Tensile test
Strain measurement technique for elevated temperature tensile and creep testing of foil-gage metals (Blackburn), May, 271
Tensile testing machine
X-ray residual stress measurements in notched test specimens (Dowling, Hendricks, and Ranganathan), Sept., 456
Test section
Prediction of specimen strain from extensometer deflection measurements in a direct stress fatigue test specimen under static tensile loading (Arora and Raghavan), July, 386
Test setup
Development of a test setup to simulate pipe reaction end loading on large valves (Rao, Narayanan, Murugananthan, and Jayakar), March, 244
Theoretical model
Dynamic tests on full-scale structures of glue-laminated timber: theoretical and experimental studies (Ceccotti and Vignoli), March, 178
Thickness effects
Development of a miniaturized specimen technique for fracture toughness J_{Ic} measurement (Mao, Shoji, and Takahashi), March, 229
Thin sheet materials
Determination of K_c and residual strength

values for sheet materials (Abril), Jan., 38
Timber
Dynamic tests on full-scale structures of glue-laminated timber: theoretical and experimental studies (Ceccotti and Vignoli), March, 178
Transition state theory
On the analysis of thermally activated tension-tension cyclic deformation behavior (Mshana and Krausz), Jan., 22
Unloading compliance method
Effect of prestrain on fracture toughness of rolled mild steel with significant inclusion content (Arora, Raghavan, and Prasad), May, 298
Valid size
Development of a miniaturized specimen technique for fracture toughness J_{Ic} measurement (Mao, Shoji, and Takahashi), March, 229
Venting failure
Chimney venting performance study (Timsuk, Seskus, Selby, and Rinella), March, 158
Viscoelastic properties of rubber
Experimental verification of a finite element contact analysis (Purushothaman, Heaton, and Moore), Nov., 497
Vision system
Establishing criteria for a computerized vision inspection of holes drilled in carbon fiber composites (Hough, Lednicky, and Griswold), March, 139
Wear
A pin-on-drum abrasive wear test and comparison with other pin tests (Blickensderfer and Laird), Nov., 516
Wear tests
A pin-on-drum abrasive wear test and comparison with other pin tests (Blickensderfer and Laird), Nov., 516
Wedge load
Comparison of compliance results for the wedge-loaded compact specimen (Underwood and Newman), Sept., 489
Welded joints
A method for obtaining conservative *S-N* data for welded structures (Nakamura, Nishijima, Ohta, Maeda, Uchino, Kohno, Toyomasu, and Soya), May, 280
Wire rope
Localized intrinsic strengthening approach (LISA): a practical method for determining the tensile strength of multistrand cables (Akhtar), March, 124
X-ray residual stress measurements
X-ray residual stress measurements in notched test specimens (Dowling, Hendricks, and Ranganathan), Sept., 456